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T R E E S A N D W O O D S

Having always been interested in trees, I was eager for my first sight of a tropical forest, which was vouchsafed to me in October, 1935, near the mouth of the Amazon River. I confess I was a bit disappointed. Except for the palms, appearing here and there, it did not look, from the deck of the ship, much different from a North American forest. I had heard in my boyhood of "jungles so thick you can't stick a butcher knife into them up to the handle", and I expected too much. But the forests are substantially different from those of temperate climates, and there is scarcely a tree to be found in North Brazil that is known in the United States. In after years, when visiting in the United States, I was often asked of my residence in Brazil, "How far do you live from the jungle?" I generally replied, "There ain't no jungle", which of course was not accurate, but speaking of Pernambuco, was not very far wrong.

There are three principal types of forest in Pernambuco: mata, capoeira, and caatinga. The first of these is the rain forest near the coast, the second, the scrub growing up on the hill lands where the original forests have been destroyed, and where, due to fire, drought, soil erosion, and early cutting, the trees never attain the stature of full grown trees, and the third is the characteristic forest of the arid interior. While there is some overlapping, the types are generally distinct and easily recognizable.

The zone of the mata (one needs to distinguish between mata, forest, and mato, scrub or weeds, also mate, the Brazilian or Paraguayan tea) extends fifty miles or so inland from the coast, where the valleys have mostly been cleared for cultivation of sugar cane, but the forests often left on the hills. There are some very good forests in this section, though most of them have been cut over. I believe there is very little real virgin forest left in Pernambuco. As one journeys by train or highway through this section he may see occasionally (much less frequently now than ten years ago) a tree that lifts itself head and shoulders above the surrounding forest, and whose branches spread out so as to form an almost perfectly flat top. I asked a

fellow passenger the name, and he said it was a visgueiro. They must be the last stand of the old forest.

The capoeira is on the higher land, where the rainfall is less, and where, by a vicious circle, the scarcity of timber for fuel and construction makes it necessary to cut the small stuff, thus making ever scarcer even this poor resource. Mostly the mountain sides are covered with mere scrub, much of it of varieties that would never make a tree, and the few useful trees that spring up in it are often destroyed by fire, or if they escape this peril are cut long before maturity. A good program of soil and forest conservation would be of great benefit; but the Brazilian government has many weightier problems standing in line for solution ahead of this one. The scrub is generally a little higher than a man's head, and much of it is thorny. It looks like excellent cover for deer, and there are some, a small spike-horned variety, whether properly called deer or antelope I am not able to say. But game is not at all abundant.

The caatinga, or catinga (from an Indian word meaning big forest) covers a large area in the dry interior. It is the typical forest of the sertão. Stunted, twisted trees, that look as if growth had been an agony, hung with wisps, (not long streamers, as in the southern United States) of Spanish moss, and with a thorny growth underneath -- that is the caatinga.

I had always taken a pride in knowing our native trees in the United States, and when I went to Brazil I resolved to learn to know them there. And I did learn some of them, but soon had to admit defeat -- there are too many! On our school campus alone I counted over fifty different kinds. And after fourteen years there I was still constantly meeting up with trees or woods new to me; and not rare ones, but common trees, that all the people knew. Some of them had commonplace names, as amarelo, (yellowwood) amargoso, (bitterwood) pau setim, (satinwood) and such like. But I loved those with euphonious names of Indian origin, such as sucupira, caboatã, jacarandá, muricý, molungú, and massaranduba.

Three trees have combined to make Brazil known to the world: the pau Brasil (Brazilwood), the seringueira (rubber tree) and the castanheira (Brazil nut tree).

Only the first named of these is found in Pernambuco, but brief mention may be made of the others, which occur only in the immense forests of the Amazon valley.

The Brazil nut tree, (Bertholetia excelsa) is a lofty, graceful tree, which grows wild in the forests of the upper Amazon valley. They are not cultivated, except that I understand that in some places the other trees have been cut away, so as to leave groves of the nut trees exclusively. The nuts are borne in containers about the size of a grapefruit, made of a hard, tough, woody substance about half an inch in thickness. These are the seed pods, and the nuts are the seeds, each pod containing twenty-five or thirty nuts. When mature, these pods fall to the ground, and are collected by the inhabitants of this sparsely populated region, who break open the containers and secure the nuts, for their own use, or for sale. Breaking open the containers is no simple matter, for the material is tough as well as hard, and an unskilled person may hit it repeatedly with an axe without getting it open. But the men that are used to this task use a heavy knife, and seldom have to strike the second time. The nuts of course have their season for maturing, and falling to the earth; and during this season the people walk under the trees only with the greatest caution, and at the hours in which the nuts are most prone to fall they stay out altogether; for it can readily be imagined what would be the effect of being struck by an object weighing two or three pounds, falling from a tall tree. The nuts are known locally as castanhas, hence the tree is called a castanheira. A castanha is properly a chestnut. Some true chestnuts are imported from Portugal at Christmas time, and these are known as castanhas do reino (kingdom chestnuts). Oddly enough, Brazil nuts are practically unknown in Brazil outside the Amazon region. Only recently has there been some effort to commercialize them in the rest of Brazil. Where known, they are called castanhas de Pará. In most of Brazil, when one speaks of castanhas he means cashew nuts. Manáos, at the mouth of the Rio Negro, about 1000 miles from the sea, is the principal port of exportation of Brazil nuts. Of course large ocean steamers can go to Manáos, and even much farther up the river. In their season Brazil nuts form the chief article of commerce of Manáos. I was in Manáos in April, 1949, and at that time the retail price in Manáos was about ten cents a pound.

There are a number of different trees which produce rubber, but the most important one is the hevea brasiliensis. It is a beautiful tree, with a bark smooth, like beech, and about the same color. The story of the rubber boom in Brazil, of the seeds of this tree which were sent to England, and finally resulted in the establishment of the rubber industry in the orient, and of the consequent depression in the rubber market, is sufficiently well known, and does not need repetition here. During World War II the American government made an effort, in cooperation with the Brazilian government, to exploit natural rubber in Brazil, but from what I could learn the results were meager as compared with the expenditure of time and money. There is still some natural rubber produced in Brazil. In Belem, and especially in Manáos, one may see on the streets or in warehouses piles of the great irregular balls, two or three feet in diameter, into which the raw rubber is first formed. I was informed, however, that this rubber is not exported at present, because it cannot be produced at a price to compete with the world price. The consumption of rubber in Brazil is quite considerable, as practically all the automobile tires used in Brazil are manufactured in the country, and many other things besides. And it seems that the government is buying up the excess of production over consumption in order to maintain a price that will guarantee continuance of the industry, and to establish a stock pile against emergencies. Some attempts at establishing rubber plantations have been made, with less success than was anticipated. Diseases attacked the planted trees that apparently had not bothered them in the forest; but the technical difficulties are being overcome, and the industry may be firmly established in time, unless synthetic rubber comes to displace the natural product entirely.

The pau Brasil, or Brazil wood, (Caesalpinia echinata) is the tree that gave the country its name. This red wood, whose coloring matter is soluble in water, seems to have received its name from its similarity in color to a brazá (coal of fire), and the land from which it was brought was finally given the same name. Although now supplanted by chemical dyes, this wood was for a long time greatly sought after for dyeing purposes, and the slow growing tree well nigh exterminated. It is coming back now, and is being extensively planted in parks, and as shade trees along city streets.

Pernambuco is the principal source of this tree, and its wood, also called Pernambuco wood, is a favorite material for making violin bows.

Many woods of inferior quality are said in Brazil to "dar bichos" literally, to give bugs. That is, they are attacked by an insect borer, whose presence may be detected by a fine powder, which comes from tiny little holes in the wood. This is not something that happens occasionally, but it invariably happens in woods of inferior grade. And when the process is begun, it is but a short time until the article is entirely worthless, a mere hollow shell. If you have something made of wood, and the "bichos" appear in it, you have simply been cheated, by the substitution of inferior wood to that which should have been used. For that reason, the woods that are dependable, because not attacked by insects, are often called madeira de lei (legal wood), because they may legally be used for construction. But that does not apply to termites -- termites will attack anything. As one Brazilian constructor once remarked to me, "That bicho is no respecter of quality of wood". *Storewood*

Sucupira (pronounced soo-coo-pee-ra) is one of the commonest, and one of the most beautiful woods of Brazil. The tree belongs to the legume family, and is abundant in Pernambuco, and in many other parts of the country. The wood is hard and dense, a rich brown in color, with a beautiful grain. It is much used for construction, but is a fine cabinet wood as well. Of course houses are seldom built of wood in Brazil. Most construction is of brick, but there are sills, rafters, door and window facings, and the like, to be made of wood. I visited a house in Recife whose woodwork was all of sucupira, varnished and polished in its natural color, and all the furniture had been made to order of the same material. It was beautiful, and was certainly the pride and joy of its owner.

Amarelo, or yellow wood, is one of the choice woods of Pernambuco. It is smooth, and easily worked, and in many respects reminds one of the yellow poplar so common in the United States forty or fifty years ago. And like yellow poplar, it is becoming very difficult to obtain, as only the old heart wood is good, and that is rare. In 1938 I had a joiner make a desk for my wife's Christmas present. It was made of a choice piece of amarelo, and took a wonderfully beautiful polish. And it cost, for

material and workmanship together, only a hundred mil reis, or about five dollars as exchange was then. Ah, for the good old days!

Amargoso, (bitter wood) is well named. It is a strong, white, close grained wood, somewhat resembling hickory, and much in demand for construction purposes. And it is bitter, through and through. Even when perfectly dry, a little splinter, chewed like a tooth pick, will fill your mouth with bitterness. No wonder the bichos do not attack it! It is a well known fact that Brazilians live largely on beans. And workmen in any sort of outdoor work, instead of carrying a lunch in a basket or pail, commonly take a small earthenware pot, and as soon as work starts in the morning they make up a little fire, and put the beans on to cook. Somebody has to leave work every now and then to replenish the fire, but that is not anything to worry about. And at noon, they have their beans nicely hot, which, with a little farinha, make a substantial meal. In any sort of wood working, the chips serve very conveniently as fuel. But not if the wood is amargoso! Men have learned through (literally) bitter experience, that if amargoso is the fuel, the little traces of smoke that inevitably enter the pot will render the beans too bitter to be eaten.

Massaranduba (pronounced on the measure of "tell him to stop it") is a variety of rubber tree, and in some places is exploited commercially as such. But it is chiefly known as a timber tree, with a strong, hard, durable red wood, and as the source of a wild fruit much appreciated by boys. The leaves of the tree, glossy green above and rusty underneath, though shorter, remind one of rhododendron, especially in their tendency to curl up a little here and there on the edges. The fruit ripens usually about September, and in size, color, and manner of growth^{they} are much like red cherries; but ah, how different in taste! It consists of a rind about as thick as orange peel, and inside that one or more black seeds about as large as a bean, surrounded by a milky, gluey, rubbery substance, that sticks to your fingers, your lips, your tongue and your throat, and nearly chokes you to death. When I tried my first one I began to fear for my life. But the boys assured^{me} that the proper way to eat them was to take a whole mouth^{ful}, and go chewing and spitting out the seeds. I found that in quantity

they were indeed a little easier to manage. If you have imagination enough to conceive of a fruit made of a mixture of red haw, black haw, green persimmon and choke-cherry, all mixed up with a generous portion of sweet-gum at its stickiest stage, you will have some idea what a massaranduba is like. The boys assured me that this fruit, taken internally in large quantities, is good to cure pneumonia, consumption or typhoid; and that externally it is useful for healing wounds. I pass on the suggestion for what it may be worth.

When I was a boy I read Jules Verne's story about the long voyage down the Amazon River on a raft of logs, and was much impressed by the possibilities of that region. I dreamed of going there to make a fortune in timber, little suspecting that I should actually go to Brazil as a school teacher. With such an immensity of timber, and such a natural waterway, what could be easier, I thought. I was afterwards to learn that that story was about as wild as the rest of Jules Verne's stories, and that actually, almost all valuable timbers in Brazil are specifically heavier than water, and will not float. I have heard of the practice of tying a valuable log securely (with vines) to two inferior logs of good floating qualities, and thus sending it down the stream. But in general, loggers working near the water's edge have to be careful to see that the log does not roll into the water, for if it does, it goes straight to the bottom, and is lost forever.

Goimacá

Besides the flowering trees and shrubs too numerous to mention that are planted in gardens and parks, there are some forest trees notable for their blossoms. Many a fence line is beautiful in January with the scarlet blossoms of molungú; for the molungú, utterly worthless as timber, or even firewood, nevertheless makes good fence posts by reason of the fact that the posts, if set out in the dry season, take root and grow. Put out in the rainy season, they invariably rot. The roadsides in June are white with the blossoms of jurema; and a sucupira in December like a blue cloud in the distance, or a wooded hillside in October, splashed here and there with the vivid yellow of pau d'arco, are sights never to be forgotten.